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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,378	10/06/2003	Rolf Bruck	E-80045	5868

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EXAMINER	
JIMENEZ, MARC QUEMUEL	
ART UNIT	**PAPER NUMBER**
3726	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/680,378	BRUCK ET AL.	
	Examiner	Art Unit	
	Marc Jimenez	3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) *18-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10-6-03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, Claims 1-17 in the reply filed on 3-3-06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 18-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1, 3-5 and 8-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheller (US5657923) in view of Schaper (DE 19943976A1).

Sheller teaches a process for producing metallic honeycomb bodies, which comprises the steps of:

performing at least one of stacking of stacking of and winding of (figures 2-3) at least partially structured metal foils **14,16** for forming a honeycomb structure having passages defined therein;

heating the metal foils using at least one radiation heater (col. 5, lines 11-17, the heating coils are slightly larger than the diameter of the honeycomb body, therefore, the coils radiate heat to the honeycomb body), the honeycomb structure, at least in at least one partial region, reaching a temperature of 800 to 1200 C within a time of 5 to 30 seconds during the heating step (figure 5); and connecting the metal foils to one another by joining in the partial region.

Sheller teaches the invention cited above with the exception of the particular region that is heated, specifically, from an open end face of the passages.

Schaper teaches heating from an open end face of honeycomb structure passages (see figure 2).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Sheller with heating from an open end face of honeycomb structure passages, in light of the teachings of Shaper, in order to securely fasten the end portions of the honeycomb structure assembly.

Regarding claims 3 and 8, note that Schaper teaches the claimed axial depth at which heating occurs (see figure 2).

Regarding claim 4, both Schaper and Sheller are considered to meet the steps of introducing the metal foils "at least partially" into the tubular jacket before the heating step and connecting the metal foils to one another by joining (the foils are considered joined to one another in the tubular jacket because they are connected to each other as they are initially pressed

into the jacket). The final position of the metal foils in the tubular jacket is considered to meet the step of inserting the metal foils completely into the tubular jacket.

Regarding claim 5, the external diameter of the jackets of Schaper and Sheller are considered to project beyond end sides of the honeycomb structure. The external diameter of the jackets project radially beyond the end sides of the honeycomb structure.

Regarding claim 9, both Schaper and Sheller disclose joining the tubular jacket to the distal ends of the honeycomb strips (see for example, col. 5, lines 11-13). Therefore, this teaching is considered to meet the limitation that the outer side reaches a greater depth in heating.

Regarding claim 10, Schaper shows in figure 2 that radiation heating is conducted at an angle. However, it is not specifically disclosed what the angle is. At the time of the invention, it would have been an obvious matter of design choice to a person of ordinary skill in the art, to have used the claimed radiation angles because applicant has not disclosed that an angle of between 10 and 80 degrees provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either the heating angle taught by Schaper or the claimed heating angles because either heating angle perform the same function of heating equally well.

Regarding claims 11-14, Schaper teaches in figure 2, relative rotation between the heater and honeycomb structure.

Regarding claims 15-16, Sheller teaches using brazing foil or brazing paste which is considered a diffusion welding step. Alternatively, official notice is taken that it was well known

to person of ordinary skill in the art, at the time of the invention to have provided diffusion welding, in order to utilize a suitable joining means.

Regarding claim 17, Sheller teaches a shielding gas (figure 1. "argon").

5. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheller in view of Schaper as applied to claim 1 above, and further in view of Cyron (US4923109).

Sheller/Schaper teach the invention cited above with the exception of the radiation heater generating a targeted infrared heating radiation. It is noted that both Sheller and Schaper teach using induction coils to heat.

Cyron teaches that induction coils or infrared radiation in assembling honeycomb bodies (col. 5, lines 12-15) are art equivalent means of attachment.

Therefore, because the use of induction coils or infrared radiation were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute induction coils with infrared radiation.

6. **Claims 6-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheller in view of Schaper as applied to claim 4 above, and further in view of Whittenberger (US5174968).

Sheller/Schaper teach the invention cited above with the exception of having an inner tube in the honeycomb structure.

Whittenberger teaches an inner tube **14** in a honeycomb structure.

Therefore it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Sheller/Schaper with an inner tube in the

honeycomb structure, in light of the teachings of Whittenberger, in order to provide more structural support for the honeycomb structure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Jimenez whose telephone number is (571) 272-4530. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on (571) 272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

3-16-06

Marc Jimenez, Primary Examiner
Art Unit 3726

MJ